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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/698,977	10/31/2003	Adrian James Corless	45896.0026	8842

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HOLLAND & HART LLP  
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SUITE 2000  
SALT LAKE CITY, UT 84111

EXAMINER
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ECHELMEYER, ALIX ELIZABETH

ART UNIT	PAPER NUMBER
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1745

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/09/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

**Office Action Summary**

Application No.

10/698,977

Applicant(s)

CORLESS ET AL.

Examiner

Alix Elizabeth Echelmeyer

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 November 2006.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-42 is/are pending in the application.
- 4a) Of the above claim(s) 23-31, 33-42 ~~23-42~~ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 <sup>and 32</sup> is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Applicant's election of Group I, claims 1-22 and 32, in the reply filed on November 13, 2006 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).
2. Claims 1-42 are pending. Claims 1-22 and 32 are elected. Claims 23-31 and 33-42 are withdrawn as being a non-elected invention. Claims 1-22 and 32 are rejected for the reasons given below.

### ***Claim Objections***

3. Claim 17 is objected to because of the following informalities: it is drawn to a material having high thermal mass, but in the specification names metals as materials having high thermal mass. The examiner believes that Applicants meant to claim materials having high thermal conductivity, since the cast enclosure is disclosed as being used to dissipate, not retain, the heat generated by the power unit. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 1745

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 3-5, 15 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Mashiko et al. (US Patent 2001/0024915).

Regarding claims 1 and 5, Mashiko et al. teach a cast metal enclosure for the exhaust system of an internal combustion engine of a vehicle (abstract). Since the enclosure of Mashiko et al. is cast, it would inherently be formed in a mold or die; additionally, product by process limitations are not given patentable weight, and since the method of forming is a process for making the cast enclosure, it is not given patentable weight (MPEP 2113). Regarding the battery replacement limitation, an engine is known to provide power, and as such is a replacement for a battery, which also provides power. The enclosure, as seen in Figure 4, comprises several internal subcompartments such as 236, 232a, or 238.

Regarding claim 3, the subcompartments are for containing exhaust gases.

As for claim 4, the enclosure of Mashiko et al. is made in different sections ([0012]-[0014], [0109]).

As for claims 15 and 16, Mashiko et al. teach mounts on the bottom of the system ([0134]).

6. Claims 1-3, 6, 10, 17, 18 and 20-22 are rejected under 35 U.S.C. 102(b) as being anticipated by Crowell et al. (US Patent 5,859,482).

Regarding claims 1-3, Crowell et al. teach a liquid cooled motor that has cooling conduits cast in place (abstract). Since the enclosure of Crowell et al. is cast, it would inherently be formed in a mold or die; additionally, product by process limitations are not given patentable weight, and since the method of forming is a process for making the cast enclosure, it is not given patentable weight (MPEP 2113). Regarding the battery replacement limitation, an engine is known to provide power, and as such is a replacement for a battery, which also provides power.

As for claim 6, a motor is housed within the walls containing the cooling conduits.

As for claim 10, the walls are of varying thickness, such as where the cooling conduits are found within the walls, and as seen in Figure 3. Since claim 10 relates varied wall thickness to void size, the varying thickness would inherently minimize voids.

Regarding claims 17 and 18, Crowell et al. teach a cast metal as the frame (abstract, column 3 lines 59-67). Since a cast metal is taught, it would inherently have high "thermal mass" (see Objection, above).

As for claims 20 and 21, the coolant conduits encased within the frame serve as a radiator (abstract).

Regarding claim 22, Crowell et al. teach fans, which have fins, for cooling a motor (column 1 lines 36-49).

### ***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1745

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 7-9, 19 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crowell et al. in view of Harris et al. (US Pre-Grant Publication 2001/0052433).

The teachings of Crowell et al. as discussed above are incorporated herein.

Regarding claims 7, 8 and 32, Crowell et al. teach a cast enclosure having internal subcompartments but fail to teach a fuel cell stack or fuel storage device within the enclosure.

Harris et al. teach a power supply module containing a fuel cell and fuel storage container for replacing a fossil fuel powered engine (abstract, [0029]).

Harris et al. further teach that a battery or fuel cell that will not produce pollution is a desirable replacement for an engine in a closed warehouse where others are working, since it would not contaminate the environment ([0020]).

It would be advantageous to replace the motor of Crowell et al. with the fuel cell system of Harris et al. in order to prevent pollution of an atmosphere where others are working.

As for claim 9, Harris et al. teach that the fuel cell system, depicted in Figures 1 and 3, is used interchangeable with a heavier battery or fossil fuel burning system, and as such is interchangeable in form and fit ([0015]), as well as weight ([0018]).

With regard to claim 19, the fuel cell system of Harris et al. has a removable access cover ([0059]).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to replace the motor of Crowell et al. with the fuel cell system of Harris et al. in order to prevent pollution of an atmosphere where others are working.

9. Claims 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Crowell et al. in view of Marshall (US Patent 4,913,410).

The teachings of Crowell et al. as discussed above are incorporated herein.

Crowell et al. teach a cast enclosure but fail to teach vibration dampening with a particle bed.

Marshall et al. teach dampening vibrations within machinery using a composite particle pad (abstract).

It would be desirable to dampen vibrations using the material of Marshall et al. in the enclosure of Crowell et al. to prevent parts from coming loose.


Crowell et al. in view of Marshall et al. fail to teach where the vibration dampening particle pad or bed might be placed within the system of Crowell et al. It would have been obvious to one having ordinary skill in the art at the time the invention was made to place the damping material in different places, since it would be advantageous to use the dampening material in the places most susceptible to damage by vibration. It has been held that rearranging parts of an invention involves only routine skill in the art. MPEP 2144.04 (VI C)

**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alix Elizabeth Echelmeyer whose telephone number is 571-272-1101. The examiner can normally be reached on Mon-Fri 7-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's trainer, Susy N. Tsang-Foster can be reached on 571-272-1293. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

  
SUSY TSANG-FOSTER  
PRIMARY EXAMINER

Alix Elizabeth Echelmeyer  
Examiner  
Art Unit 1745